It is respectfully submitted that a review of Vogler appears to show aspects of a laser system, but Vogler does not appear to discuss failure analysis. Further, Vogler does not appear to suggest directing a beam onto a multi-layer semiconductor device to selectively etch away material therefrom.

In the analysis supporting the rejection of claims 1, 19 and 28 the Office action specifically refers to paragraph [008] of Vogler as disclosing "directing the output beam (20) onto a semiconductor device to selectively etch away material therefrom (see paragraph [008])." Office Action, p. 2.

For ease of reference ¶ 008 of Vogler is shown below:

> [0008] The F_2-laser has an advantageous output emission spectrum including one or more lines around 157 nm. **This short wavelength is advantageous for photolithography applications because the critical dimension (CD), which represents the smallest resolvable feature size producible using photolithography, is proportional to the wavelength.** This permits smaller and faster microprocessors and larger capacity DRAMs in a smaller package. The high photon energy (i.e., 7.9 eV) is also readily absorbed in high band gap materials like quartz, synthetic quartz (SiO_2), Teflon (PTFE), and silicone, among others, such that the F_2-laser has great potential in a wide variety of materials processing applications. It is desired to have an efficient F_2 laser for these and other industrial, commercial and scientific applications.

It is respectfully submitted that photolithography is a process where a photoresist material is formed on the surface of a semiconductor wafer, and light can be used to treat the photoresist. This treatment results in pattern being formed in the photoresist, and a chemical etching process is then used to remove portions of the semiconductor wafer, where portions of the wafer are exposed to the chemical etching process by virtue of the pattern defined by the photoresist on the surface the semiconductor wafer.

The focus of much of the discussion in Vogler is on aspects of a laser system. For example the field of the invention of Vogler, appears to provide a very high level summary of the content of the discussion in Vogler, stating:

> [0003] The invention relates to a molecular fluorine (F_2) laser, and particularly to an F_2-laser with an improved resonator design and improved beam monitoring and line-selection for providing stable output beam parameters at high operating repetition rates.

It is respectfully submitted that there appears to be no discussion or suggestion in Vogler, that one should perform a failure analysis method, which includes etching a portion of a wafer

using an output beam. Further, Vogler appears to contain no disclosure or suggestion of directing an output beam onto a device to, where the output beam etches material from the device. Specifically, claim 1 recites "directing the output beam onto a multi-layer semiconductor device to selectively etch away material therefrom"; and claim 19 recites "directing the output beam onto a multi-layer semiconductor device that includes integrated circuitry covered by a passivation layer, wherein a portion of the passivation layer is etched away by the output beam to expose the integrated circuitry"; and claim 28 recites "directing the beam of 157 nm radiation towards the passivation layer; and selectively removing a portion of the passivation layer using the directed beam".

It is also noted that the Vogler reference cited in the Office Action is assigned to Lambda Physik AG (a copy of the assignment is enclosed herewith), the assignee of the present patent application, and that the subject matter of Vogler and the present application were both at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. Accordingly, the Vogler reference should not preclude patentability under 35 USC §103.

It is recognized that the rejection under Vogler was under 35 USC §102(e), not under 35 USC §103. However, as shown above the Vogler reference does not anticipate the pending claims. Also, it is respectfully submitted that the Vogler reference does not render the pending claims obvious. Further, under 35 USC §103 (c) Vogler would not be a proper §103 reference. In light of the above it is respectfully submitted that claims 1, 19 and 28 are patentable over the references. It is further submitted that claims 2-9 depend from claim 1, and are respectfully submitted to be patentable for at least the same reasons as claim 1. It is further submitted that claims 20-27 depend from claim 19, and are respectfully submitted to be patentable for at least the same reasons as claim 19. It is further submitted that claims 29-35 depend from claim 28, and are respectfully submitted to be patentable for at least the same reasons as claim 28 .

CONCLUSION

For the reasons set forth above, the rejections of the pending claims are traversed, and it is believed that all claims now present in this application are patentably distinguishable over the references. Therefore, reconsideration is requested, and it is requested that this application be passed to allowance.

Respectfully submitted,

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